

**Amendment and Response**

Page 2 of 13

HANSON et al.

Serial No.: 09/814,252

Filed: 21 March 2001

For: PRIMERS FOR USE IN DETECTING BETA-LACTAMASES

---

**In the Claims**

Please amend claims 1, 2, 4, 5, 7-11, 19, 21, 25, 27, 31, 33, 35, 36, 38, 49-57.

The amended claims are provided below in clean form. Per 37 C.F.R. §1.121, amended claims are also shown in Appendix A with notations to indicate changes made (for convenience, all pending claims, including those added hereby, are provided in Appendix A).

1. (AMENDED) A primer selected from the group of:  
5' - CTT GGT CTG ACA GTT ACC - 3' (SEQ ID NO:3);  
5' - TGT CGC CCT TAT TCC - 3' (SEQ ID NO:4);  
5' - TCG GGG AAA TGT GCG - 3' (SEQ ID NO:5); and full-length complements thereof.
2. (AMENDED) A primer selected from the group of:  
5' - ATC GTC CAC CAT CCA CTG CA - 3' (SEQ ID NO:6);  
5' - GGG AAA CGG AAC TGA ATG AG - 3' (SEQ ID NO:7);  
5' - TAG TGG ATC TTT CGC TCC AG - 3' (SEQ ID NO:8);  
5' - GCT CTG CTT TGT TAT TC - 3' (SEQ ID NO:9);  
5' - CAC TCA AGG ATG TAT TGT G - 3' (SEQ ID NO:10); and full-length complements thereof.
4. (AMENDED) A primer selected from the group of:  
5' - CTG GCA ACC ACA ATG GAC TCC G - 3' (SEQ ID NO:18);  
5' - GCC AGT TCA GCA TCT CCC AGC C - 3' (SEQ ID NO:19); and full-length complements thereof.
5. (AMENDED) A primer selected from the group of:  
5' - CGT GAC CAA CAA CGC CCA GC - 3' (SEQ ID NO:20);  
5' - CCA GAT AGC GAA TCA GAT CGC - 3' (SEQ ID NO:21); and full-length complements thereof.

**Amendment and Response**

Page 3 of 13

HANSON et al.

Serial No.: 09/814,252

Filed: 21 March 2001

For: PRIMERS FOR USE IN DETECTING BETA-LACTAMASES

---

7. (AMENDED) A primer selected from the group of:  
5' - GGC ATT GGG ATA GTT GCG GTT G - 3' (SEQ ID NO:24);  
5' - TTA CTA CAA GGT CGG CGA CAT GAC C - 3' (SEQ ID NO:25); and full-length complements thereof.
8. (AMENDED) A primer selected from the group of:  
5' - GGA TCA CAC TAT TAC ATC TCG C - 3' (SEQ ID NO:26);  
5' - CGT ATG GTT GAG TTT GAG TGG C - 3' (SEQ ID NO:27); and full-length complements thereof.
9. (AMENDED) A primer selected from the group of:  
5' - GCG ACC TGG TTA ACT ACA ATC CC - 3' (SEQ ID NO:28);  
5' - CGG TAG TAT TGC CC TTA AGC C - 3' (SEQ ID NO:29); and full-length complements thereof.
10. (AMENDED) A primer selected from the group of:  
5' - CGG AAA AGC ACG TCG ATG GG - 3' (SEQ ID NO:30);  
5' - GCG ATA TCG TTG GTG GTG CC - 3' (SEQ ID NO:31); and full-length complements thereof.
11. (AMENDED) A primer selected from the group of:  
5' - CTC GAT GAT GCG TGC TTC GC - 3' (SEQ ID NO:32);  
5' - GCG ACT GTG ATG TAT AAA CG - 3' (SEQ ID NO:33); and full-length complements thereof.
19. (AMENDED) The method of claim 18 wherein the primers are selected from the group of:  
5' - CTT GGT CTG ACA GTT ACC - 3' (SEQ ID NO:3);  
5' - TGT CGC CCT TAT TCC - 3' (SEQ ID NO:4);

**Amendment and Response**

Page 4 of 13

HANSON et al.

Serial No.: 09/814,252

Filed: 21 March 2001

For: PRIMERS FOR USE IN DETECTING BETA-LACTAMASES

---

5' - TCG GGG AAA TGT GCG - 3' (SEQ ID NO:5); and full-length complements thereof.

21. (AMENDED) The method of claim 20 wherein the primers are selected from the group of:

5' - ATC GTC CAC CAT CCA CTG CA - 3' (SEQ ID NO:6);

5' - GGG AAA CGG AAC TGA ATG AG - 3' (SEQ ID NO:7);

5' - TAG TGG ATC TTT CGC TCC AG - 3' (SEQ ID NO:8);

5' - GCT CTG CTT TGT TAT TC - 3' (SEQ ID NO:9);

5' - CAC TCA AGG ATG TAT TGT G - 3' (SEQ ID NO:10); and full-length complements thereof.

25. (AMENDED) The method of claim 24 wherein the primers are selected from the group of:

5' - CTG GCA ACC ACA ATG GAC TCC G - 3' (SEQ ID NO:18);

5' - GCC AGT TCA GCA TCT CCC AGC C - 3' (SEQ ID NO:19); and full-length complements thereof.

27. (AMENDED) The method of claim 26 wherein the primers are selected from the group of:

5' - CGT GAC CAA CAA CGC CCA GC - 3' (SEQ ID NO:20);

5' - CCA GAT AGC GAA TCA GAT CGC - 3' (SEQ ID NO:21); and full-length complements thereof.

31. (AMENDED) The method of claim 30 wherein the primers are selected from the group of:

5' - GGC ATT GGG ATA GTT GCG GTT G - 3' (SEQ ID NO:24);

5' - TTA CTA CAA GGT CGG CGA CAT GAC C - 3' (SEQ ID NO:25); and full-length complements thereof.

**Amendment and Response**

Page 5 of 13

HANSON et al.

Serial No.: 09/814,252

Filed: 21 March 2001

For: PRIMERS FOR USE IN DETECTING BETA-LACTAMASES

33. (AMENDED) The method of claim 32 wherein the primers are selected from the group of:

5' - GGA TCA CAC TAT TAC ATC TCG C - 3' (SEQ ID NO:26);

5' - CGT ATG GTT GAG TTT GAG TGG C - 3' (SEQ ID NO:27); and full-length complements thereof.

35. (AMENDED) The method of claim 34 wherein the primers are selected from the group of:

5' - GCG ACC TGG TTA ACT ACA ATC CC - 3' (SEQ ID NO:28);

5' - CGG TAG TAT TGC CC TTA AGC C - 3' (SEQ ID NO:29); and full-length complements thereof.

36. (AMENDED) The method of claim 34 wherein the primers are selected from the group of:

5' - CGG AAA AGC ACG TCG ATG GG - 3' (SEQ ID NO:30);

5' - GCG ATA TCG TTG GTG GTG CC - 3' (SEQ ID NO:31); and full-length complements thereof.

38. (AMENDED) The method of claim 37 wherein the primers are selected from the group of:

5' - CTC GAT GAT GCG TGC TTC GC - 3' (SEQ ID NO:32);

5' - GCG ACT GTG ATG TAT AAA CG - 3' (SEQ ID NO:33); and full-length complements thereof.

49. (AMENDED) A diagnostic kit for detecting a TEM family beta-lactamase which comprises packaging, containing, separately packaged:

(a) at least one primer pair capable of hybridizing to a beta-lactamase nucleic acid of interest wherein at least one of the primers is selected from the primers of claim 1;

**Amendment and Response**

Page 6 of 13

HANSON et al.

Serial No.: 09/814,252

Filed: 21 March 2001

For: PRIMERS FOR USE IN DETECTING BETA-LACTAMASES

---

(b) a positive and negative control; and

(c) a protocol for identification of the beta-lactamase nucleic acid of interest.

50. (AMENDED) The diagnostic kit of claim 49 wherein the primers are selected from the group of:

5' - CTT GGT CTG ACA GTT ACC - 3' (SEQ ID NO:3);

5' - TGT CGC CCT TAT TCC - 3' (SEQ ID NO:4);

5' - TCG GGG AAA TGT GCG - 3' (SEQ ID NO:5); and full-length complements thereof.

51. (AMENDED) A diagnostic kit for detecting a SHV family beta-lactamase which comprises packaging, containing, separately packaged:

(a) at least one primer pair capable of hybridizing to a beta-lactamase nucleic acid of interest wherein at least one of the primers is selected from the primers of claim 2;

(b) a positive and negative control; and

(c) a protocol for identification of the beta-lactamase nucleic acid of interest.

52. (AMENDED) A diagnostic kit for detecting an AmpC family beta-lactamase which comprises packaging, containing, separately packaged:

(a) at least one primer pair capable of hybridizing to a beta-lactamase nucleic acid of interest;

(b) a positive and negative control; and

(c) a protocol for identification of the beta-lactamase nucleic acid of interest.

53. (AMENDED) The kit of claim 52 wherein at least one of the primers is selected from the group consisting of:

5' - CTG GCA ACC ACA ATG GAC TCC G - 3' (SEQ ID NO:18);

5' - GCC AGT TCA GCA TCT CCC AGC C - 3' (SEQ ID NO:19);

5' - CGT GAC CAA CAA CGC CCA GC - 3' (SEQ ID NO:20);

**Amendment and Response**

Page 7 of 13

HANSON et al.

Serial No.: 09/814,252

Filed: 21 March 2001

For: PRIMERS FOR USE IN DETECTING BETA-LACTAMASES

---

5' - CCA GAT AGC GAA TCA GAT CGC - 3' (SEQ ID NO:21);  
5' - GGC ATT GGG ATA GTT GCG GTT G - 3' (SEQ ID NO:24);  
5' - TTA CTA CAA GGT CGG CGA CAT GAC C - 3' (SEQ ID NO:25);  
5' - GGA TCA CAC TAT TAC ATC TCG C - 3' (SEQ ID NO:26);  
5' - CGT ATG GTT GAG TTT GAG TGG C - 3' (SEQ ID NO:27); and full-length  
complements thereof.

54. (AMENDED) A diagnostic kit for detecting a K1 family beta-lactamase which comprises packaging, containing, separately packaged:

- (a) at least one primer pair capable of hybridizing to a beta-lactamase nucleic acid of interest;
- (b) a positive and negative control; and
- (c) a protocol for identification of the beta-lactamase nucleic acid of interest.

55. (AMENDED) The kit of claim 54 wherein at least one of the primers is selected from the group consisting of:

- 5' - GCG ACC TGG TTA ACT ACA ATC CC - 3' (SEQ ID NO:28);
- 5' - CGG TAG TAT TGC CC TTA AGC C - 3' (SEQ ID NO:29);
- 5' - CGG AAA AGC ACG TCG ATG GG - 3' (SEQ ID NO:30);
- 5' - GCG ATA TCG TTG GTG GTG CC - 3' (SEQ ID NO:31); and full-length  
complements thereof.

56. (AMENDED) A diagnostic kit for detecting a PSE1, PSE4, or CARB3 family beta-lactamase which comprises packaging, containing, separately packaged:

- (a) at least one primer pair capable of hybridizing to a beta-lactamase nucleic acid characteristic of the PSE1, PSE4, or CARB3 families of beta-lactamase enzymes;
- (b) a positive and negative control; and
- (c) a protocol for identification of the beta-lactamase nucleic acid characteristic of the PSE1, PSE4, or CARB3 families of beta-lactamase enzymes.

**Amendment and Response**

Page 8 of 13

HANSON et al.

Serial No.: 09/814,252

Filed: 21 March 2001

For: PRIMERS FOR USE IN DETECTING BETA-LACTAMASES

57. (AMENDED) The kit of claim 56 wherein at least one of the primers is selected from the group consisting of:

5' - CTC GAT GAT GCG TGC TTC GC - 3' (SEQ ID NO:32);

5' - GCG ACT GTG ATG TAT AAA CG - 3' (SEQ ID NO:33); and full-length complements thereof.